REMARKS

The present Amendment amends claims 1, 3, 9, 10, 12 and 18-21, leaves claims 4-7 and 13-16 unchanged, cancels claims 8 and 17 and adds new claims 22-24. Therefore, the present application has pending claims 1, 3-7, 9, 10, 12-16 and 18-24.

Applicants note that the Form PTO-1449 submitted with the filing of the application incorrectly identified a reference as 2002-330924 instead of 2000-330924. In the outstanding Office Action the Examiner initialed the Information Disclosure Statement. However, so as to make the record clear attached herewith is a new Form PTO-1449 properly listing the reference 2000-330924. Although the Examiner apparently has already considered this reference, the Examiner is respectfully requested to initial the attached Form PTO-1449 and enter it into the record so that the status of consideration of the cited reference is clear.

Claims 1, 3, 4, 8-10, 12, 13, 15 and 17-21 stand rejected under 35 USC §103(a) as being unpatentable over Alonso (U.S. Patent Application Publication No. 2003/0142628) in view of Applicants' alleged admitted prior art; and claims 5-7 and 14-16 stand rejected under 35 USC §103(a) as being unpatentable over Alonso. As indicated above, claims 8 and 17 were canceled. Therefore, the 35 USC §103(a) rejection of claims 8 and 17 as being unpatentable over Alonso in view of Applicants' alleged admitted prior art is rendered moot. Accordingly, reconsideration and withdrawal of this rejection is respectfully requested.

These rejections with respect to the remaining claims are traversed for the following reasons. Applicants submit that the features of the present

invention as now more clearly recited in claims 1, 3-7, 9, 10, 12-16 and 18-21 are not taught or suggested by Alonso or Applicants' alleged admitted prior art whether taken individually or in combination with each other as suggested by the Examiner. Therefore, Applicants respectfully request the Examiner to reconsider and withdraw these rejections.

Amendments were made to each of the independent claims so as to more clearly recite features of the present invention regarding the processes that are performed upon detection of congestion in the paths. These processes are performed, for example, by the storage management device 2, recited in the claims as the third device or computer, the master storage device 1, recited in the claims the first device of first storage device, or the controller 107, recited in the claims as the control unit all being illustrated in Figs. 1, 2A and 2B. These processes include storing information on the predetermined ratio and a rate of change to be applied to the predetermined ratio to compute the changed predetermined ratio when a change in the predetermined ratio is required. The change rate is illustrated, for example, in Fig. 4b as element 2217.

According to the present invention as now more clearly recited in the claims when a congestion has been detected a changed predetermined ratio is computed based on the change rate and information on the changed predetermined rate is sent to the first device or is used by the first device when transferring data from the first device to the second device. These features of the present invention are described, for example, on page 13, lines 6-17 and in the paragraph bridging pages 18 and 19 of the present application.

The above described features of the now more clearly recited in the claims are not taught or suggested by any of the references of record whether taken individually or in combination with each other. Particularly, the above described features of the present invention as now more clearly recited in the claims are not taught or suggested by Alonso or Applicants' alleged admitted prior art whether said references are taken individually or in combination with each other as suggested by the Examiner.

Alonso teaches, for example, in Fig. 2 thereof a system having first and second switching fabrics 110, 115 and an inter-fabric service link 200 having an adjunct processor 205 coupled to the first switching fabric 110 and the second switching fabric 115. Alonso also teaches that the inter-fabric service link 200 coordinates the services of the first switching fabric 110 and the second switching fabric 115 and particularly performs service functions on both the system and element level of the switching fabrics 110 and 115.

Alonso further teaches that a first services function provided by the inter-fabric service link 200 is fault management wherein the detection isolation and correction of problems occurring in a switching fabric are performed. As per Alonso, the adjunct processor 205 polls or receives an asynchronous notification from each attached network to determined the status of each element in the attached network. If an error is identified, then the application will route data away from the malfunctioning element.

Thus, it would appear that Alonso teaches the manage of paths relative to the occurrence of a failure or congestion.

However, at no point is there any teaching or suggestion in Alonso of the use of a predetermined ratio as recited in the claims wherein the

predetermined ratio defines a weighting of an amount of communications to be allocated among the paths so that communication loads among the paths are balanced as in the present invention. According to the present invention as illustrated, for example, in Fig. 5 ratios of the paths relative to each other are set as a predetermined ratio. Such features are clearly not taught or suggested by Alonso.

Further, according to the present invention the predetermined ratio can be changed based on a notification of a congestion occurring on the paths. As per the present invention upon detection of congestion on the paths the changed predetermined ratio is computed based on a change rate value such as that illustrated, for example, in Fig. 4b of the present application. Applicants fail to find any such teaching in Alonso.

In the Office Action the Examiner alleges that Alonso teaches the use of a change rate, for example, in paragraph [0067]. However, this teaching of Alonso simply describes the real-time monitoring of available capacity on a switching element. However, there is no teaching or suggestion in this passage or at any other point in Alonso that a change rate value is used and applied to the previously calculated predetermined ratio so as to change the predetermined ratio to changed predetermined ratio according to preset values as indicated by the changed rate. In the present invention the change rate defines the stopped amount of increase or reduction that is to occur when a congestion is detected. For example, if the change rate is 50, then the predetermined ratio is to be increased or decreased by 50%. Such features are clearly not taught or suggested by Alonso.

Thus, Alonso fails to teach or suggest that the first device transfers data to the second device using the plurality of paths at a predetermined ratio defining a weighting of an amount of communications to be allocated among the plurality of paths so that communication loads among the plurality of paths are balanced as recited in the claims.

Further, Alonso fails to teach or suggest that the first device changes the predetermined ratio among the paths, thereby changing the weighting of an amount of communications to be allocated among the plurality of paths, based on notification from the third device of the congestion on the plurality of paths, wherein the first device transfers data to the second device using the plurality of paths according to the changed predetermined ratio as recited in the claims.

Still further, Alonso fails to teach or suggest that the third device has information on the predetermined ratio and a change rate to be applied to the predetermined ratio to compute the changed predetermined ratio when a change in the predetermined ratio is required, that the third device, when congestion of the plurality of paths has been detected, computes the changed predetermined ratio among paths based on the changed rate and sends information on the changed predetermined ratio to the first device, and that the first device transfers data to the second device using the plurality of paths based on the changed predetermined ratio among paths as recited in the claims.

As noted above, the process described as being performed by the third device can alternatively be performed by the first device or a control unit of

the first device as recited in the claims. These features are also not taught or suggested by Alonso.

Therefore, as is quite clear from the above, Alonso fails to teach or suggest numerous features of the present invention as now more clearly recited in the claims.

These deficiencies of Alonso are not supplied any of the other references of record, particularly Applicants' alleged admitted prior art. Accordingly, whether Alonso is taken individually or in combination with Applicants' alleged admitted prior art, Alonso or the combination of Alonso and Applicants' alleged admitted prior art fails to teach or suggest the features of the present invention as now more clearly recited in the claims.

Applicants' alleged admitted prior art is merely relied upon for an alleged teaching of a system in which a host device communicates with a storage device and that load balancing is used in a storage area network to control communications between storage devices. However, at no point is there any teaching or suggestion in Applicants' alleged admitted prior art of the above described features of the present invention now more clearly recited in the claims. Particularly, there is no teaching or suggestion in Applicants' alleged admitted prior art of the above described features of the present invention as now more clearly recited in the claims regarding the predetermined ratio, the changing of the predetermined ratio to a changed predetermined ratio as a result of a detection of congestion and the computing of the changed predetermined ratio based on a change rate as in the present invention as recited in the claims.

Thus, as is clear from the above, Applicants' alleged admitted prior art suffers from the same deficiencies relative to the features of the present invention as now more clearly recited in the claims as Alonso. Therefore, combining the teachings of Alonso and Applicants' alleged admitted prior art in the manner suggested by the Examiner in the Office Action does not render obvious the features of the present invention as now more clearly recited in the claims.

Accordingly, based on the above, Applicants respectfully request reconsideration and withdrawal of the 35 USC §103(a) rejection of claims 1, 3, 4, 7-10, 12, 13, 15 and 18-21 as being unpatentable over Alonso in view of Applicants' alleged admitted prior art and reconsideration and withdrawal of the 35 USC §103(a) rejection of claims 5-7 and 14-16 as being unpatentable over Alonso.

The remaining references of record have been studied. Applicants submit that they do not supply any of the deficiencies noted above with respect to the references utilized in the rejection of claims 1, 3-7, 9, 10, 12-16 and 18-21.

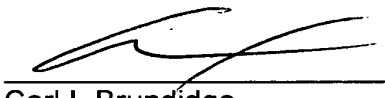
As indicated above, the present Amendment adds new claims 22-24. New claims 22-24 depend from claim 1 and therefore recite the same features recited in claim 1 shown above not to be taught or suggested by any of the references of record whether taken individually or in combination with each other. Therefore, the same arguments presented above with respect to claim 1 apply as well to new claims 22-24. Additionally, new claims 22-24 recite other features of the present invention which are not taught or suggested by any of the references of record.

In view of the foregoing amendments and remarks, applicants submit that claims 1, 3-7, 9, 10 and 12-16 and 18-24 are in condition for allowance. Accordingly, early allowance of claims 1, 3-7, 9, 10 and 12-16 and 18-24 is respectfully requested.

To the extent necessary, the applicants petition for an extension of time under 37 CFR 1.136. Please charge any shortage in fees due in connection with the filing of this paper, including extension of time fees, or credit any overpayment of fees, to the deposit account of MATTINGLY, STANGER, MALUR & BRUNDIDGE, P.C., Deposit Account No. 50-1417 (TMI-5039).

Respectfully submitted,

MATTINGLY, STANGER, MALUR & BRUNDIDGE, P.C.



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